Medical Coverage Policy

In Vitro Chemoresistance and Chemosensitivity Assays

☐ Device/Equipment  ☐ Drug  ☐ Medical  ☐ Surgery  ☑ Test  ☐ Other


☐ Prospective review is recommended/required. Please check the member agreement for preauthorization guidelines.

☑ Prospective review is not required.

Description:
In vitro chemoresistance and chemosensitivity assays have been investigated as a means of predicting tumor response to various chemotherapies. Thus, these assays have been used by oncologists to select chemotherapy regimens for an individual patient. A variety of assays have been developed that differ in their processing and in the technique used to measure the sensitivity or resistance. However, all involve the same four basic steps: 1) isolation of cells, 2) incubation of cells with drugs, 3) assessment of cell survival, and 4) interpretation of the result. A variety of techniques have been evaluated to assess cell survival, including the differential staining cytotoxicity (DiSC®) assay, the thymidine incorporation assay, fluorescence (cytoprint) assays, and the MTT assay.

Results may be reported as either drug sensitive, drug resistant, or intermediate. Drugs identified as drug sensitive are thought to be potentially effective in in-vitro chemotherapy, while drugs identified as resistant are thought to be potentially ineffective chemotherapies. Chemoresistance is the one most commonly used.

Evidence is insufficient as larger studies and prospective trials are still needed to assess the impact of testing on treatment decisions and health outcomes.

Medical Criteria:
Not applicable.

Policy:
In vitro chemosensitivity assays and chemoresistance assays are considered not medically necessary as there have been no prospective clinical trials that have demonstrated improved survival among patients in whom chemosensitivity or chemoresistance assays were used to positively select or exclude chemotherapy regimens.

Coverage:
Benefits may vary between groups/contracts. Please refer to the appropriate Evidence of Coverage, Subscriber Agreement, or Benefit Booklet for the applicable “Services Not Medically Necessary.”

Coding:
No specific codes

Also Known as:
Not applicable
Related Topics:
Not Applicable

Published:
Policy Update, November 2007
Provider Update, October 2008
Provider Update, October 2009
Provider Update, November 2010
Provider Update, September 2011

Reference:


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